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Applicants: McKain *et al.*
Serial No: 08/932,784
Filed: September 18, 1997
For: MOTION PICTURE RECORDING DEVICE USING DIGITAL.
COMPUTER-READABLE NON-LINEAR MEDIA

Examiner: H.T. Nguyen
Art Unit: 2615

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

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Attention: Board of Patent Appeals and Interferences
Assistant Commissioner for Patents
Washington, D.C. 20231

1/2003 BALEXAND 00000002 500876 08932784 APPLICANT'S APPEAL BRIEF UNDER 37 C.F.R. §1.192
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Sir:

This brief, submitted in triplicate, and payment for the fee under 37 C.F.R. §1.17(c) are submitted under 37 C.F.R. §1.192 in furtherance of the Notice of Appeal mailed in connection with this application on July 18, 2002. A petition for a three-month extension of time for filing this brief is hereby made, and payment for the appropriate fee under 37 C.F.R. §1.17(a)(1) is enclosed. An amendment under 37 C.F.R. §1.116 accompanies this brief. Entry of the amendment is respectfully requested. A Request for Oral Hearing and payment for the corresponding fee under 37 C.F.R. §1.17(d) also are submitted herewith.

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8. The references relied upon in the Office Action, in combination, neither teach nor suggest a housing sized to be portable for use by an individual, a motion picture camera mounted in the housing, a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format, and a system within the housing for specifying a sequence of segments of the sequence of digital still images. 15

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I. Real Party In Interest

The real party in interest is Avid Technology, Inc., assignee of this application by assignment from the inventors, recorded at Reel 010436, Frame 0984. Avid Technology, Inc., is a Delaware Corporation having a principle place of business at One Park West, Avid Technology Park, Tewksbury, Massachusetts 01876.

II. Related Appeals and Interferences

There are no related appeals or interferences. However, U.S. Patent Application Serial No. 08/932,993 has related subject matter and is currently subject to a non-final Office Action dated August 14, 2002, including a rejection based on U.S. Patent 5,579,239 ("Freeman") and U.S. Patent 5,537,157 (the "157 Patent"), both of which are discussed in this Appeal Brief.

III. Status of Claims

At the time of the filing of the Notice of Appeal, the claims as pending were 1-2 and 4-44, of which claims 1, 9 and 23 are independent. These claims are reproduced in the attached Appendix A. Claim 3 was previously cancelled. There were no allowed claims. The claims as appealed were claims 1-2 and 4-44, of which claims 1, 9 and 23 are independent.

In the accompanying amendment, Applicant requests cancellation of all of the dependent claims 2, 4-8, 10-22 and 24-44 and correction of a typographical error in claim 23. In the event that the amendment is entered, the claims as appealed are reproduced in Appendix B and the status of the claims will be as follows:

1. Independent claims 1, 9 and 23 are pending and are appealed;
2. Claims 2-8, 10-22 and 24-44 are cancelled; and
3. No claims are allowed.

IV. Status of Amendments

Subsequent to the Final Office Action, the applicant has submitted an amendment (herewith) to cancel dependent claims and correct a typographical error, thereby reducing the issues to be addressed on appeal. This amendment has not yet been entered in this application. Its entry is hereby requested.

V. Summary of Invention

The present invention relates to a digital motion picture recorder. Page 3, line 5 and Fig. 1 (20). The recorder includes a housing sized to be portable by an individual. Page 3, line 6. A motion picture camera (22 in Fig. 1) is mounted in the housing. Page 3, line 6-7. A sequence of digital still images is produced from the motion picture camera. Page 3, lines 7-9. A digital, computer-readable and writable random-access medium (such as disk drives 120 (Figs. 7-9), see page 6, 18-26) is mounted in the housing and is connected to receive and store the sequence of digital still images in a computer-readable file format. Page 3, lines 9-11, page 9, lines 3-6.

A motion picture editing system also is mounted in the camera. Page 3, lines 14-15. See also page 11, lines 28-31. Such an editing system defines a sequence of segments of the sequences of digital still images that are stored in the data files. See U.S. Patent 5,267,351 and PCT Publication WO93/21636, incorporated by reference at page 11, line 30. At least a portion of the sequence of digital still images and read and output from the digital computer-readable and writable random-access medium according to the defined sequence of segments. Page 12, lines 3-7. A display and editing controls on the housing allow a user to provide input to the editing system. Page 3, lines 15-16, page 12, lines 8-12 and Fig. 1, elements 30 and 64.

The inclusion of an editing system within the housing of a camera that records video information in data files on a digital, computer-readable and writable random-access medium "allows the user of the present invention to edit the video material recorded at the recording site, even prior to, or in lieu of, editing in a studio. This is particularly advantageous if the material must be broadcast immediately. Therefore, the video and audio signals may be recorded, edited and broadcast from the field in a very short period of time." Page 11, line 31 to page 12, line 3.

VI. Issues

The only issue on appeal is whether independent claims 1, 9 and 23 are patentable under 35 U.S.C. §103. Two different combinations of references have been proposed by the Examiner, with two corresponding rejections.

VII. Grouping of Claims

Group I includes claims 1, 9 and 23, each of which is independent. Claim 1, for example, recites, among other things, "a housing sized to be portable for use by an individual; a motion picture camera mounted in the housing . . . ; . . . a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format; . . . and a . . . system within the housing for specifying a sequence of segments of the sequence of digital still images stored on the digital, computer-readable and writable random-access medium." Similar limitations are found in claims 9 and 23. Claims 9 and 23 also recite a means "for reading and outputting at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments." Claim 9 also recites a "processor . . . executing computer program instructions . . . in response to user input to define" such a sequence of segments of at least the sequences of digital still images.

Because of the differences among the claims within the group that are separately argued below, the claims within each group do not stand or fall together.

VIII. Argument

Claims 1, 9 and 23 were rejected under 35 U.S.C. 103 on the one hand, in view of U.S. Patent 5,488,433 ("Washino"), U.S. Patent 5,579,239 ("Freeman") and Japanese Patent Application 3-314435 with Publication Number 5-153448 (called "Osamu" in the Office Action), and on the other hand in view of U.S. Patent 5,946,445 ("Peters"), U.S. Patent 5,109,482 ("Bohrman") and Osamu.

The final rejection should be reversed and the claims should be allowed. The references relied on in the Office Action fail to teach or suggest, either alone or in combination, as explained more fully below, the combination of: "a housing sized to be portable for use by an individual; a motion picture camera mounted in the housing . . . ; . . . a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format; . . . and a . . . system within the housing for specifying a sequence of segments of the sequence of digital still images stored on the digital, computer-readable and writable random-access medium" as recited in claim 1, and as similarly found in claims 9 and 23.

A. ALL OF THE CLAIMS RECITE A HOUSING SIZED TO BE PORTABLE FOR USE BY AN INDIVIDUAL, A MOTION PICTURE CAMERA MOUNTED IN THE HOUSING, A DIGITAL COMPUTER-READABLE AND WRITABLE RANDOM-ACCESS MEDIUM MOUNTED IN THE HOUSING AND CONNECTED TO RECEIVE AND STORE THE SEQUENCE OF DIGITAL STILL IMAGES IN A COMPUTER-READABLE FILE FORMAT AND A SYSTEM WITHIN THE HOUSING FOR SPECIFYING A SEQUENCE OF SEGMENTS OF THE SEQUENCE OF DIGITAL STILL IMAGES

Independent claim 1 recites "a housing sized to be portable for use by an individual; a motion picture camera mounted in the housing . . . ; . . . a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format; . . . and a motion picture editing system within the housing for specifying a sequence of segments of the sequence of digital still images stored on the digital, computer-readable and writable random-access medium."

Similarly, claim 9 recites "a housing sized to be portable for use by an individual; a motion picture camera mounted in the housing . . . ; . . . a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format." As will be noted, claim 9 also recites a processor that executes computer instructions in response to user input "to define a sequence of segments of at least the sequences of digital still images". Claim 9 also recites that the processor may "read and output at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments."

Similarly, claim 23 recites "a housing sized to be portable for use by an individual; a motion picture camera mounted in the housing . . . ; . . . a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format." As will be noted, claim 23 also recites "an editing system, mounted in the housing, for defining a sequence of segments of at least the sequences of digital still images." Claim 23 also recites that the editing system is "for reading and outputting at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments."

B. NONE OF THE REFERENCES TEACHES OR SUGGESTS ALONE OR IN COMBINATION A HOUSING SIZED TO BE PORTABLE FOR USE BY AN INDIVIDUAL, A MOTION PICTURE CAMERA MOUNTED IN THE HOUSING, A DIGITAL COMPUTER-READABLE AND WRITABLE RANDOM-ACCESS MEDIUM MOUNTED IN THE HOUSING AND CONNECTED TO RECEIVE AND STORE THE SEQUENCE OF DIGITAL STILL IMAGES IN A COMPUTER-READABLE FILE FORMAT AND A SYSTEM WITHIN THE HOUSING FOR SPECIFYING A SEQUENCE OF SEGMENTS OF THE SEQUENCE OF DIGITAL STILL IMAGES

1. Washino teaches that video information may be stored on a random access computer readable memory, such as a hard disk, in a video camera.

As a point of clarification, this application has a filing date of February 23, 1995 whereas Washino has a filing date of March 1, 1995. However, Washino purports to be a "continuation-in-part" of two other patent applications, namely 08/298,104, filed August 30, 1994, now U.S. Patent 5,537,157 (the "'157 Patent"), and 08/050,861, filed April 21, 1993, now U.S. Patent 5,450,140 (the "'140 Patent"). For the sake of clarity, it is assumed that the Examiner is applying Washino only to the extent that it incorporates the subject matter of these two other patent applications.

According to Washino, a camera includes a lens and viewfinder mounted on the body of a camera frame, and usual signal processing circuitry. See Fig. 1 and Col. 3, lines 20-30 (See Fig. 2a, Col. 6, lines 31-35 of the '157 Patent). The video information may be compressed. See Col. 4, line 57 to Col. 5, line 2 (and Col. 9, lines 15-23 of the '157 Patent). The video information may be stored on a hard disk drive 70. See Fig. 2 and Col. 4, line 17 (and Fig. 3, and Col. 8, line 58 of the '157 Patent).

The Examiner acknowledges that "Washino fails to teach an editing means that specifies sequence of the stored digital picture [sic]" in the housing. Final Office Action, page 3, lines 8-9.¹

¹ In the related application (Ser. No. 08/932,993), a rejection relying on the '157 Patent includes a contrary assertion (not adopted by the Examiner in the prosecution of this application) that the '157 patent does teach such an editing system. That Examiner asserts that "a stored video program may be considered a sequence of segments of the still images since each stored still image may be considered a segment, i.e., a frame, and a sequence of such segments constitute a program." That Examiner also referred to Col. 8, lines 55-57 and Col. 14, lines 46-53 of the '157 Patent. The Applicant respectfully disagrees with these assertions and suggests that the correct interpretation of Washino, as adopted by the Examiner of this application, is that Washino fails to teach such an editing system in the housing.

2. Freeman teaches a remote video transmission system that uses a conventional software, namely VIDEO FOR WINDOWS, for capturing and editing video on a portable personal computer.

According to Freeman a remote video transmission system includes a remote unit where an input video signal is captured, compressed, digitized and transmitted to a host unit. See Abstract, first line and Col. 4, lines 8-10. The remote unit may receive a video signal from a video camera or other source. See Col. 4, lines 28-31. The remote unit may be a portable personal computer. See Col. 4, lines 17-18. Freeman also states, at Col. 2, line 63 to Col. 3, line 7, that:

"Computer software loaded on a hard disk drive in the remote unit instructs it to capture the input signal to a video capture card within the remote unit. The video capture card takes the audio/visual signal, digitizes it into a computer data file, and compresses that data file. Once digitized and compressed, the data file is captured in the computer's memory by a capture module on the video capture card. A software sequence then instructs the computer central processing unit to store the captured data file on the computer's hard disk drive. After the video file has been captured, it may be edited as desired prior to transmission to the host unit."

The Examiner refers to Col. 6, lines 8-20 of Freeman for teaching editing, but this portion of the reference does not discuss editing. Col. 6, lines 30-35, however, states that:

"VIDEO FOR WINDOWS provides the system the capability for editing a captured data file on the remote unit . . . As the file is being viewed, sequences may be deleted or edited together as desired."

According to Freeman, VIDEO FOR WINDOWS was a computer software program available from MicroSoft [sic] (Col. 4, lines 42-44), that "allows for editing of a data file once captured" (Col. 4, line 67). According to Freeman, "other software packages . . . may be substituted for VIDEO FOR WINDOWS." Col. 4, lines 45-48. This editing capability is not in a portable housing that also includes a camera.

Freeman also includes a control screen, shown in Fig. 2. Col. 4, line 1. The control screen presents several selection buttons on the screen. "The selection buttons are activated using any conventional means such as the computer keyboard, mouse or similar pointing device." Col. 5, lines 42-44.

3. Peters teaches a portable computer that receives a video signal and stores video information in data files on a digital random-access computer readable and rewriteable recording medium.

According to Peters, a system stores audio and/or video material digitally such that it can be randomly and immediately accessed. See Col. 2, lines 17-21. In Fig. 1 of Peters, "analog video sources 1 and analog audio sources 2 are received by video coprocessor 3 and audio coprocessor 4." Col. 2, lines 30-32. "Each of the coprocessors digitizes incoming material and stores it on storage devices 5." Col. 2, lines 35-36. Separate files are created in response to a discontinuity in the video information received. See Col. 2, lines 50-65. Fig. 1 illustrates that sources of analog video received by the media recorder include a video camera or a video assist of a film camera. "The storage of clips on disk . . . allows multiple clips to be played back in sequence." Col. 3, lines 32-34. The computer and video system in Fig. 1 can be designed for portability. See Col. 3, lines 43-45.

In summary, Peters teaches a portable computer that receives a video signal and stores video information in data files on a digital random-access computer readable and rewriteable recording medium.

The Examiner acknowledges that Peters "fails to specifically teach that the motion camera mounted in the housing having the recorder. [sic]" Final Office Action, page 6, lines 18-19.

4. Bohrman teaches a system in which a user can create a sequence, called a lineup, of custom video clips of information previously recorded on a videodisc, wherein each clip begins at an "in" point and ends at an "out" point in a preprogrammed segment on the videodisc, by dragging selected clips from a menu into the lineup.

According to Bohrman, Bohrman solves the problem of playing back information previously recorded on a videodisc in a sequence that is different from the sequence in which the information was originally stored. See Col. 1, lines 27-34. According to Bohrman, this problem is addressed by an apparatus that "enables a user to simply and efficiently select and playback user-specified segments of ... information prerecorded on [a] videodisc in an order individually determined by the user." Col. 2, lines 16-20. In Fig. 1 of Bohrman, the "preferred embodiment of [Bohrman's system] is programmed as a HyperCard® program running on an Apple

Macintosh® computer 10 that controls the operation of a Pioneer® LD-2200, LD-V4200 or LD-V8000 videodisc player 12." Col. 4, lines 51-54.

For a user to select segments of the prerecorded information, a "custom clip maker card" (Fig. 5) is used, described at Col. 8, lines 20-52, which is reproduced here:

"All of the user-selected custom made video clips begin at an "in" point and end at an "out" point. With the Custom Clip Maker card 120 as shown in FIG. 5, the user can specify one or more user-selected video clips and add them to the Presentation Control card 100 under the Lineups large button 94. To create a user-selected or custom made clip, the user first selects a preprogrammed video segment from one of the pop-up menus using the large buttons 92. The user then clicks Play on the control panel 80. As the video segment is playing, the user clicks the New Start button 122 to mark a new "in" point and the New Stop 124 button to make a new "out" point. . . .

After the clip has been marked, the user can check the "in" and "out" points with the Check Start and Check Stop buttons 126 and 128. The user also can watch the entire clip with the Preview Clip button 130. Most likely, the "in" and "out" points will need fine tuning. By using the Step button 132 to find the perfect edit point, the user may perform such fine tuning. When the user is satisfied with the "in" and "out" points of the clip, the user can name the clip and add it to the pull-down list with the Add Clip to List button 134. The clip will now appear in the pull-down window associated with the Lineups button 94. It also will be added to the presentation control card in the Custom Clips list."

For a user to order the user-selected segments of the prerecorded information, a "lineup maker card" (Fig. 6) is used, described at Col. 8, line 55 to Col. 9, line 1:

"With the Lineup Maker card 140 as shown in FIG. 6, the user can create a custom sequence of up to 20 clips. To activate the Lineup Maker card 140, the user presses and holds down the Lineups button 94. A pop-up menu will appear. . . . The user may choose preselected clips available with the videodisc materials or any of the custom made and user-named clips or any combination of these two from the pop-up menu. It will appear on the selection line near the top of the card. The user may then drag the selected clip into the desired slot in the lineup."

In summary, according to Bohrman, a user may define custom made video clips of information previously recorded on a videodisc. Each clip begins at an "in" point and ends at an "out" point in a preprogrammed segment on the videodisc. The user can create a custom sequence of up to 20 clips defined by a lineup. The user may drag selected clips from a menu into a lineup. This editing capability is not in a portable housing that also includes a camera.

5. The admitted prior art teaches that many tape based recorders used for news reporting are in a two-part form such that the camera and recorder are separable from each other.

The admitted prior art relied on by the Examiner is page 4 of the present application. The application says, at page 4, lines 25-28:

"Many tape based recorders used for news reporting are in . . a two-part form [such that the camera and recorder are separable from each other], and often take the same shown in Japanese utility model 63-9907, also referred to as 56-134889, or Japanese patent 61-187165."

Thus, the admitted prior art merely states that many tape based recorders are in a two-part form such that the camera and recorder are separable from each other.

6. Osamu teaches a video tape recorder integrated with a camera that has fade in, fade out, digital titling, and other operations on video images that are performed during the recording process.

Osamu teaches an integrated camera and video tape recorder. See Applicant's Translation, page 6, "Working Example". The problem Osamu addresses is that the increased number of control buttons for each added function and the size and spacing of these control buttons have made them "more difficult to use and has increased the likelihood of mistakes." Applicant's Translation, page 4, "Problem Solved by the Invention". According to Osamu, this problem is addressed by a camera that has "a panel that can be open and closed" and "a monitor . . . situated inside the panel for viewing . . . images." Applicant's Translation, page 5, "Means for Solving the Problem". The "control buttons used to record, play back and edit video images are located inside on [a] panel or on the main body of the video camera enabling the control buttons to be operated when the panel is open." Applicant's Translation, page 5, "Means for Solving the Problem". Other control buttons "do not work when the panel is open." Applicant's Translation, page 5, paragraph 0008.

Osamu teaches that some of the control buttons are used for "editing video images." See Applicant's translation, in the following paragraphs: "Constitution," "Claim 1," "Claim 3," "Means of Solving the Problem," "0008," "0013," "0017" and "0020." These control buttons are only among control buttons labeled 121-137 in Fig. 2 and 161-180 in Fig. 4. See Applicant's

translation, paragraphs "0013" and "0020." The only specific functions described by Osamu for "editing video images" are "fade in, fade out and create digital titles." These functions are invoked by control buttons 121-137 "while photographing and recording images" (paragraph "0014") or "during the recording process" (paragraph "0005"). The other buttons, because they are disabled, "are unlikely to cause a recording error." Applicant's translation, paragraph "0015."

Osamu therefore teaches a video tape recorder integrated with a camera that has fade in, fade out, digital titling, and other operations on video images that are performed during the recording process.

7. None of the cited references alone teaches or suggests a housing sized to be portable for use by an individual, a motion picture camera mounted in the housing, a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format, and a system within the housing for specifying a sequence of segments of the sequence of digital still images.

As demonstrated by the foregoing summaries of the references relied upon in the Office Action, neither Washino, Freeman, Peters, Bohrman nor the admitted prior art alone teaches "a housing sized to be portable for use by an individual, a motion picture camera mounted in the housing, a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format, and a system within the housing for specifying a sequence of segments of the sequence of digital still images." Osamu teaches a camera that records on video tape and that includes controls for "editing video images," such as fade in, fade out and addition of titles, during recording of the images to tape. Osamu fails to teach specifying a sequence of segments of the sequence of digital still images stored on the digital, computer-readable and writable random-access medium. Thus none of the references alone teaches or suggests the limitations of claim 1. Similar limitations are found in the other independent claims, namely claims 9 and 23.

8. The references relied upon in the Office Action, in combination, neither teach nor suggest a housing sized to be portable for use by an individual, a motion picture camera mounted in the housing, a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format, and a system within the housing for specifying a sequence of segments of the sequence of digital still images.

a. Any proposed combination or modification of prior art references must be explained by a reason from the prior art that is supported by substantial evidence.

Based on precedent from the Court of Appeals for the Federal Circuit, "it is fundamental that rejections under 35 U.S.C. §103 must be based on *evidence* comprehended by the language of that section." *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775(Fed. Cir. 1983, emphasis added), emphasis added. In particular, since most obviousness rejections involve a combination of references, precedent also requires a reason to combine references. This reason "must be based on *objective evidence* of record." *In re Lee*, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002, emphasis added). The requirement for evidence supporting a reason for combining references has been reinforced in many opinions, such as the following (with emphasis added):

- *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000) ("*a showing* of a suggestion, teaching, or motivation to combine the prior art references is an `essential component of an obviousness holding'").
- *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for *a showing* of the teaching or motivation to combine prior art references.").
- *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) ("*particular findings* must be made as to the reason the skilled artisan . . . would have selected these components for combination in the manner claimed").
- *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("the Board *must identify specifically* the principle, known to one of ordinary skill, that suggests the claimed combination.").

- *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (The Examiner can satisfy the burden of showing obviousness of the combination "only by showing some *objective teaching* in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references").

Precedent also established that the mere possibility that the teachings of two references can be combined is insufficient, unless the prior art suggested the desirability of the combination. *In re Fritch*, 23 USPQ2d 1780, 1783-1784 (Fed. Cir. 1992), citing *In re Gordon*, 221 USPQ 1125, 1127 (Fed. Cir. 1984), citing *In re Impertato*, 179 USPQ 730, 732 (CCPA 1973), citing *In re Bergel*, 130 USPQ 206, 208 (CCPA 1961). This suggestion must be found in the prior art.

Of particular importance in evaluating obviousness is the frame of reference in which this evaluation should be done. 35 U.S.C. §103 requires obviousness to be considered from the point of view of "one of ordinary skill in the art at time the invention was made." Accordingly, the Federal Circuit has suggested that a legal finding of obviousness is made by "casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, *guided only by the prior art references and the then-accepted wisdom in the field*." *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999, emphasis added). The Federal Circuit also has stated that "particular findings must be made as to the reason the skilled artisan, *with no knowledge of the claimed invention*, would have selected these components for combination in the manner claimed." *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000, emphasis added).²

Accordingly, any proposed combination or modification of prior art references must be explained by a reason from the prior art that is supported by substantial evidence.

² It appears that the Federal Circuit in *Dembiczak* and *Kotzab* has suggested that, to limit the use of hindsight, the prior art and all related evidence first should be evaluated *without reference to the claims*, to consider what would have been obvious to one of ordinary skill in the art at the time the invention was made. The claims then should be compared to what would have been obvious to conclude whether the claims are patentable.

b. There is no evidence in the record to support a factual finding that one of ordinary skill in the art would have recognized, at the time the invention was made, that it was desirable to combine, in a housing sized to be portable for use by an individual, a motion picture camera, a digital computer-readable and writable random-access medium to store the sequence of digital still images in a computer-readable file format, and a system for specifying a sequence of segments of the sequence of digital still images.

Both of the rejections are based on a combination of references and Osamu.

Regarding the rejection based on the alleged combination of Washino, Freeman and Osamu, in the Final Rejection, the teachings of Washino and Freeman are combined "by installing the editing means as taught by Freeman in the recorder of Washino to enable edit the stored digital pictures by specify a sequence of the still digital still pictures, thereby providing more convenience to the user in editing the stored digital still picture. [sic]" Final Office Action, page 3, lines 13-17. The Examiner acknowledges that "Washino as modified with Freeman fails to teach that the editing means is with the housing of the recorder. [sic]" Final Office Action, page 3, line 18.³ Hence, in the Final Rejection, the alleged combination of Washino and Freeman is further modified according to the teachings of Osamu, "by using the teaching of Osamu to install the editing means as taught by Freeman within the recorder of Washino thereby provide more convenience to the user in handling the editing the captured digital data. [sic]" Final Office Action, page 4, lines 2-4.

Regarding the rejection based on Peters, Bohrman, admitted prior art and Osamu, in the Final Rejection, the teachings of Peters are modified "by proving a motion camera in the same housing of the digital recorder for portability's purpose therefore providing more advantages to the user in capture the desired motion signal. [sic]" Final Office Action, page 6, last line to page 7, line 2. The Final Rejection cites the admitted prior art for the assertion that "it is well recognized that a camera which integral with a digital recorder to make portable is well

³ In the Advisory Action (page 2, lines 6-13), the Examiner denies this statement, saying "the examiner did not admit that Washino and Freeman fails to teaches the editing means is within the housing of the recorder since both Washino and Freeman teaches recorders that stored digital video signal and Freeman additional teaches an editing means within a recorder for specifying stored sequence of segments. Since the claimed directed to a camera integrated recorder and having an editing means that is ready available in the art, the combination of Washino and Freeman teaches a recorder integrated with a camera having a editing means as recited in claims. [sic]" This statement has rendered unclear what the rejection is.

recognized in the art. [sic]" Final Office Action, page 7, lines 3-4.⁴ The Examiner asserts that Peters as modified by Osamu "further teaches the use of an editing unit for editing the recorded digital still picture." Final Office Action, page 7, lines 5-6. The Examiner acknowledges that Peters as modified by Osamu "fails to specifically teach that the editing means is used for specifying a sequence of the stored digital picture to be played back. [sic]" Final Office Action, page 7, lines 6-8. Finally, in the Final Rejection, the teachings of Peters, as modified by Osamu, are further modified "by using the editing device as taught by Bohrman . . . for editing the video information stored on the medium in order to provide convenience to the user in editing the digital still picture." Final Office Action, page 7, lines 13-15.

Thus, for both rejections, the Examiner relies on Osamu, stating, for example, "it is noted that incorporating an editing means in recorder integrated with a camera is well known in the art at the time the invention was made." Final Office Action, page 11, lines 8-10. In essence, the rejection is based on a generalization of the specific teachings of Osamu, and not the specific teachings themselves. As stated in the Advisory Action (page 4, lines 5-10):

"although Osamu does not specifically teach an editing means for 'specifying a sequence of segments' of stored 'motion video information,' but Osamu does teach an editing means can be incorporated in recorder integrated camera housing⁵ The editing means that has function for 'specifying a sequence of segments of stored motion video information are taught by Freeman and/or Bohrman."

Therefore, because Osamu teaches functions, specifically, fade in, fade out and create digital titles for editing video images during recording, the Examiner is apparently concluding that Osamu also suggests that editing systems such as taught by Freeman and Bohrman also may be placed in the housing of a combined camera and recorder.

The Examiner's conclusion is based on reasoning that would require additional findings of fact that are not supported by evidence in the record. The Examiner uses a narrow, specific teaching in Osamu (namely, control buttons 106-120 are used to switch modes, change shutter speed, fade in, fade out and create digital titles during recording), as a general teaching that any function that might be characterized as editing may be placed within the housing of a video recorder. The Examiner has not provided any evidence that Osamu would have been understood

⁴ The admitted prior art actually involves a video tape recorder, not a digital recorder, that is integral with a camera.

⁵ The Examiner here asserted that the Applicant has admitted that Osamu teaches an "editing means". To the contrary, the Applicant has consistently asserted that Osamu teaches a specific kind of editing function and cannot be generalized to teach the specific kind of editing that is claimed.

by one of ordinary skill in the art, at the time the invention was made, as teaching anything more than it specifically does. To the contrary, as noted above, the Examiner actually admits that Osamu fails to teach any editing that involves specifying a sequence of segments of a stored sequence of digital still images. Advisory Action, page 4, lines 5-6.

Furthermore, the generalization of Osamu's teaching of specific functions (such as switching modes, changing shutter speed, fading in, fading out and creating digital titles) to other types of editing is not supportable. In particular, Osamu describes functions that are performed on images during recording, and not functions that are performed on recorded sequences of images. Also, editing, as shown in Bohrman for example, involves specifying an "in" point and an "out" point in a preprogrammed segment on the videodisc, and then creating a custom sequence of these clips by dragging selected clips from a menu into a lineup. This function is more complicated than simply pressing a control button in Osamu.

The Examiner also asserts, in support of the proposed combination, that such a combination would "provide convenience to the user." Final Office Action, page 11, lines 8-14, for example. This assertion also is not supported by any evidence that one of ordinary skill in the art, at the time the invention was made, would have recognized that such convenience could be successfully obtained. Osamu's specific teachings about controls for switching modes, changing shutter speed, fading in, fading out and creating digital titles are insufficient to suggest that it also would have been recognized as convenient to also have, in the same portable housing as a camera and recording system, an editing system for specifying a sequence of segments of stored sequences of digital still images.

In summary there is no evidence supporting findings, for example but not limited to, that one of ordinary skill in the art, at the time the invention was made, would have recognized that:

- a. Osamu teaches something more than it specifically does;
- b. the prior art permits a broad generalization of Osamu's teachings of specific editing operations on images during recording in a camera to any kind of editing, and specifically operations on recorded sequences of images in a camera; and
- c. The capability to edit sequences of segments of stored sequences of images would have been desirable to the user of a portable video camera.

The outstanding rejections are inherently based on such findings of fact and no evidence has been provided in the record to support such findings. As noted by the Federal Circuit, "this

factual question of motivation is material to patentability, and [cannot] be resolved on subjective belief and unknown authority." *in re Lee*, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002).

Because the record lacks evidence required to support the findings of fact on which the rejection is based, it cannot be held that the references relied upon by the Examiner would have suggested to one of ordinary skill in the art at the time the invention was made "a housing sized to be portable for use by an individual; a motion picture camera mounted in the housing. . .; . . . a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format," and a system "within the housing for specifying [or defining] a sequence of segments of the sequence of digital still images stored on the digital, computer-readable and writable random-access medium," as claimed in the independent claims 1, 9 and 23.

C. THE CLAIMS ARE ALLOWABLE BECAUSE THE REFERENCES FAIL TO TEACH OR SUGGEST A HOUSING SIZED TO BE PORTABLE FOR USE BY AN INDIVIDUAL, A MOTION PICTURE CAMERA MOUNTED IN THE HOUSING, A DIGITAL COMPUTER-READABLE AND WRITABLE RANDOM-ACCESS MEDIUM MOUNTED IN THE HOUSING AND CONNECTED TO RECEIVE AND STORE THE SEQUENCE OF DIGITAL STILL IMAGES IN A COMPUTER-READABLE FILE FORMAT AND A SYSTEM WITHIN THE HOUSING FOR SPECIFYING A SEQUENCE OF SEGMENTS OF THE SEQUENCE OF DIGITAL STILL IMAGES

As noted above, evidence required to support the rejection is lacking, and the references relied upon by the Examiner neither teach nor suggest "a housing sized to be portable for use by an individual; a motion picture camera mounted in the housing. . .; . . . a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format," and a system "within the housing for specifying [or defining] a sequence of segments of the sequence of digital still images stored on the digital, computer-readable and writable random-access medium," as claimed in the independent claims 1, 9 and 23.

Because the references would not have suggested a means for defining a sequence of segments of the sequence of digital still images stored on the digital, computer-readable and writable random-access medium, they also would not have suggested any means "for reading and outputting at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments," as

recited in claims 9 and 23. Further, the references also would not have suggested any "processor . . . executing computer program instructions . . . in response to user input to define" such a sequence of segments of at least the sequences of digital still images, as recited in claim 9.

Therefore, because the references relied upon by the Examiner fail to teach or suggest these limitations of the independent claims, both of the rejections of claims 1, 9 and 23 are traversed.⁶

IX. CONCLUSION

For the foregoing reasons, the final rejection should be reversed.

Should any questions arise concerning this appeal, please call the Applicant's representative listed below.

Respectfully submitted,

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⁶ In the event that the Rule 116 amendment is not entered, the remaining claims are dependent claims and are allowable for at least the same reasons.

X. APPENDIX A: CLAIMS AS APPEALED UNDER 37 C.F.R. 1.192(c)(9)
WITHOUT ENTRY OF RULE 116 AMENDMENT

1. (Twice Amended) A digital motion picture recorder, comprising:
 - a housing sized to be portable for use by an individual;
 - a motion picture camera mounted in the housing, and providing a motion video signal as an output;
 - means, mounted in the housing, for converting the motion video signal into a sequence of digital still images;
 - a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format;
 - means for reading at least a portion of the sequence of digital still images to generate a motion video signal therefrom; and
 - a motion picture editing system within the housing for specifying a sequence of segments of the sequence of digital still images stored on the digital, computer-readable and writable random-access medium.
2. The digital motion picture recorder of claim 1, further comprising a means to compress the sequence of digital still images which are received by the random access medium.
3. cancelled
4. The digital motion picture recorder of claim 1, further comprising a display and editing controls on the housing to edit and display the sequence of digital still images.
5. The digital motion picture recorder of claim 1, wherein the digital medium comprises a disk-type drive.
6. The digital motion picture recorder of claim 5, wherein the disk-type drive is mounted in a housing detachable from the portable housing.

7. The digital motion picture recorder of claim 6, wherein the portable housing is ruggedized.

8. The digital motion picture recorder of claim 1, further including means for calibrating the motion picture signal to a digital video color standard.

9. An apparatus for digitally recording motion pictures, comprising:

a housing sized to be portable for use by an individual;

a motion picture camera mounted in the housing;

means, mounted in the housing, for providing a sequence of digital still images from the motion picture camera;

a digital computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format; and

a processor mounted in the housing and executing computer program instructions comprising instructions which instruct the processor to, in response to user input:

receive and store the sequence of digital still images from the motion picture camera into the digital computer-readable and writable random-access medium,

define a sequence of segments of at least the sequences of digital still images, and

read and output at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments.

10. The apparatus of claim 9, further comprising a display and editing controls on the housing for providing the user input.

11. The apparatus of claim 10, wherein the display and editing controls comprise:

a display for displaying functions available to be selected by a user; and

an input mechanism associated with the displayed indications of functions enabling a user to select the associated function.

12. The apparatus of claim 9, wherein the digital computer-readable and writable random-access medium comprises a disk-type drive.
13. The apparatus of claim 12, wherein the disk-type drive is mounted in a container, wherein the container is detachable from the housing.
14. The apparatus of claim 13, wherein the container further comprises a shell, and shock absorbing cushions between the shell and the disk-type drive.
15. The apparatus of claim 9, wherein the digital computer-readable and writable random-access medium comprises one of an optical drive, a magneto-optical drive, a dynamic random access memory and a flash memory.
16. The apparatus of claim 9, wherein the processor has a data and address bus connected to the means for providing a sequence of digital still images from the motion picture camera and the a digital computer-readable and writable random-access medium.
17. The apparatus of claim 16, further comprising a computer network interface connected to the data and address bus.
18. The apparatus of claim 9, wherein the computer instructions further comprise instructions which instruct the processor to calibrate color in the sequence of digital still images to a standard.
19. The apparatus of claim 9, further comprising:
 - an overlay circuit for receiving an indication of data including at least one of a battery level, time codes, time of day and function performed, and generating video data indicative of the data; and
 - an encoder for receiving the sequence of digital still images and the video data to generate a video signal combining the video data with the sequence of digital still images.

20. The apparatus of claim 9, wherein the reading and outputting of at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments further comprises directing the portion of the sequence of digital still images to a full video encoder.

21. The apparatus of claim 9, further comprising:

an encoder connected to receive the sequence of digital still images from a selected one of the means for providing and the digital computer-readable and writable random-access medium.

22. The apparatus of claim 9, wherein the sequence of digital still images defines images conforming with one of NTSC and PAL video signal formats.

23. An apparatus for digitally recording motion pictures, comprising:

a housing sized to be portable for use by an individual;

a motion picture camera mounted in the housing;

means, mounted in the housing, for providing a sequence of digital still images from the motion picture camera;

a digital computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format; and

an editing system, mounted in the camera, for defining a sequence of segments of at least the sequences of digital still images and for reading and outputting at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments.

24. The apparatus of claim 23, further comprising a display and editing controls on the housing for providing user input to the editing system.

25. The apparatus of claim 24, wherein the display and editing controls comprise:
a display for displaying functions available to be selected by a user; and

an input mechanism associated with the displayed indications of functions enabling a user to select the associated function.

26. The apparatus of claim 23, wherein the digital computer-readable and writable random-access medium comprises a disk-type drive.

27. The apparatus of claim 26, wherein the disk-type drive is mounted in a container, wherein the container is detachable from the housing.

28. The apparatus of claim 27, wherein the container further comprises a shell, and shock absorbing cushions between the shell and the disk-type drive.

29. The apparatus of claim 23, wherein the digital computer-readable and writable random-access medium comprises one of an optical drive, a magneto-optical drive, a dynamic random access memory and a flash memory.

30. The apparatus of claim 23, wherein the editing system includes a data and address bus connected to the means for providing a sequence of digital still images from the motion picture camera and the a digital computer-readable and writable random-access medium.

31. The apparatus of claim 30, further comprising computer network interface connected to the data and address bus.

32. The apparatus of claim 23, further comprising means for calibrating color in the sequence of digital still images to a standard.

33. The apparatus of claim 23, further comprising:

an overlay circuit for receiving an indication of data including at least one of a battery level, time codes, time of day and function performed, and generating video data indicative of the data; and

an encoder for receiving the sequence of digital still images and the video data to generate a video signal combining the video data with the sequence of digital still images.

34. The apparatus of claim 23, wherein reading and outputting at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments further comprises directing the portion of the sequence of digital still images to a full video encoder.

35. The apparatus of claim 23, further comprising:

an encoder connected to receive the sequence of digital still images from a selected one of the means for providing and the digital computer-readable and writable random-access medium.

36. The apparatus of claim 23, wherein the sequence of digital still images defines images conforming with one of NTSC and PAL video signal formats.

37. The digital motion picture recorder of claim 1, wherein the sequence of digital still images defines images conforming with one of NTSC and PAL video signal formats.

38. The digital motion picture recorder of claim 4, wherein the display and editing controls comprise:

a display for displaying functions available to be selected by a user; and
an input mechanism associated with the displayed indications of functions enabling a user to select the associated function.

39. The digital motion picture recorder of claim 6, wherein the housing further comprises a shell, and shock absorbing cushions between the shell and the disk-type drive.

40. The digital motion picture recorder of claim 1, wherein the digital computer-readable and writable random-access medium comprises one of an optical drive, a magneto-optical drive, a dynamic random access memory and a flash memory.

41. The digital motion picture recorder of claim 1, further comprising a data and address bus connected to the means for providing a sequence of digital still images from the motion picture camera and the a digital computer-readable and writable random-access medium.
42. The digital motion picture recorder of claim 41, further comprising computer network interface connected to the data and address bus.
43. The digital motion picture recorder of claim 1, further comprising:
 - an overlay circuit for receiving an indication of data including at least one of a battery level, time codes, time of day and function performed, and generating video data indicative of the data; and
 - an encoder for receiving the sequence of digital still images and the video data to generate a video signal combining the video data with the sequence of digital still images.
44. The digital motion picture recorder of claim 1, wherein reading and outputting at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments further comprises directing the portion of the sequence of digital still images to a full video encoder.

XI. APPENDIX B: CLAIMS AS APPEALED UNDER 37 C.F.R. 1.192(c)(9)
WITH ENTRY OF RULE 116 AMENDMENT

1. (Twice Amended) A digital motion picture recorder, comprising:

a housing sized to be portable for use by an individual;

a motion picture camera mounted in the housing, and providing a motion video signal as an output;

means, mounted in the housing, for converting the motion video signal into a sequence of digital still images;

a digital, computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format;

means for reading at least a portion of the sequence of digital still images to generate a motion video signal therefrom; and

a motion picture editing system within the housing for specifying a sequence of segments of the sequence of digital still images stored on the digital, computer-readable and writable random-access medium.

2-8. cancelled.

9. An apparatus for digitally recording motion pictures, comprising:

a housing sized to be portable for use by an individual;

a motion picture camera mounted in the housing;

means, mounted in the housing, for providing a sequence of digital still images from the motion picture camera;

a digital computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format; and

a processor mounted in the housing and executing computer program instructions comprising instructions which instruct the processor to, in response to user input:

receive and store the sequence of digital still images from the motion picture camera into the digital computer-readable and writable random-access medium,

define a sequence of segments of at least the sequences of digital still images, and read and output at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments.

10-22. cancelled.

23. An apparatus for digitally recording motion pictures, comprising:
- a housing sized to be portable for use by an individual;
 - a motion picture camera mounted in the housing;
 - means, mounted in the housing, for providing a sequence of digital still images from the motion picture camera;
 - a digital computer-readable and writable random-access medium mounted in the housing and connected to receive and store the sequence of digital still images in a computer-readable file format; and
 - an editing system, mounted in the housing, for defining a sequence of segments of at least the sequences of digital still images and for reading and outputting at least a portion of the sequence of digital still images from the digital computer-readable and writable random-access medium according to the defined sequence of segments.

24-44. cancelled.